

Amendment to the Claims:

Claim 1 (currently amended): A *Flavobacterium heparinum* host cell transformed with a for
recombinant DNA construction effective to cause expression of a protein coded by a
homologous or heterologous coding sequence placed under the control of regulatory regions
effective in *Flavobacterium heparinum* expression comprising *Flavobacterium heparinum*.

Claim 2 (original): The host cell of claim 1 further comprising a vector.

Claim 3 (original): The host cell of claim 2 wherein said vector is a plasmid system.

Claim 4 (currently amended): The host cell of claim 3 wherein said plasmid system is ~~selected~~
~~from the group consisting of a modified~~ broad-host plasmid modified with regulatory regions
functional for expression in *Flavobacterium heparinum*.

Claim 5 (original): The host cell of claim 1 wherein said recombinant DNA is integrated into the
Flavobacterium heparinum chromosome.

Claim 6 (original): The host cell of claim 5 wherein said recombinant DNA is integrated through
homologous recombination.

Claim 7 (currently amended): The host cell of claim 6 wherein ~~a gene encoded by~~ said
integrated DNA comprises a gene which is expressed at high levels.

Claim 8 (original): The host cell of claim 5 wherein said recombinant DNA is integrated through
any of bacteriophage integration, transposition of a transposon and transposition of an insertion
sequence element.

Claim 9 (original): The host cell of claim 1 further comprising a selective marker for selection
of host cells expressing a desired recombinant DNA.

Claim 10 (original): The host cell of claim 9 wherein said selective marker comprises one or more of a gene encoding antibiotic resistance, heavy metal resistance, a physiological growth inhibitory factor, and an amino acid requirement factor.

Claim 11 (original): The host cell of claim 10 wherein said selective marker expression is regulated by a regulatory region from *Flavobacterium heparinum*.

Claim 12 (original): The host cell of claim 11 wherein said regulatory region is the hepA or lysA promoter ~~heparinase I gene regulatory region~~.

Claim 13 (original): The host cell of claim 1 wherein said recombinant DNA is expressed under the control of a regulatory region from *Flavobacterium heparinum*.

Claim 14 (original): The host cell of claim 13 wherein said regulatory region is the hepA or lysA promoter ~~heparinase I gene regulatory region~~.

Claim 15 (original): The host cell of claim 1 wherein said recombinant DNA is introduced into said cell by conjugation.

Claim 16 (original): The host cell of claim 1 wherein said recombinant DNA is introduced into said cell by electroporation.

Claim 17 (original): The host cell of claim 1 wherein said recombinant DNA is introduced into said cell by bacterial phage transfection.

Claim 18 (original): The host cell of claim 1 wherein said cell glycosylates glycoproteins encoded by said recombinant DNA.

Claim 19 (original): The host cell of claim 1 wherein said cell expresses recombinant DNA containing a homologous gene.

Claim 20 (original): The host cell of claim 1 wherein said cell expresses recombinant DNA containing a heterologous gene.

Claim 21 (original): A *Flavobacterium heparinum* host organism transformed with recombinant DNA comprising a homologous or a heterologous gene placed under the control of a gene promoter derived from a protein endogenous to the *F. heparinum* host and operably linked to the coding sequence for the homologous or heterologous gene.

Claim 22 (currently amended): The *F. heparinum* host organism of claim 21, wherein said gene promoter is the hepA promoter.

Claim 23 (withdrawn)

Claim 24 (withdrawn)

Claim 25 (withdrawn)

Claim 26 (original): An expression system for expressing a desired polypeptide or protein comprising:

- (1) a *F. heparinum* host organism
- (2) nucleotide sequences encoding a desired polypeptide or protein, and
- (3) a vector for expressing the nucleotide sequences capable of expressing the desired polypeptide or protein.

Claim 27 (withdrawn)

Claim 28 (withdrawn)

Claim 29 (withdrawn)

Claim 30 (previously added): The host cell of claim 1 comprising a vector comprising (a) a functional origin of replication (*OriC*) region; (b) replication (*rep*) genes; and (c) a gene promoter derived from a protein endogenous to the *F. heparinum* host.

Claim 31 (previously added): The host cell of claim 1 comprising a vector comprising a gene promoter derived from a protein endogenous to the *F. heparinum* host.

Claim 32 (previously added): The host cell of claim 31, wherein said vector further comprises a nucleotide sequence encoding a selectable marker.

Claim 33 (previously added): The host cell of claim 32, wherein said selectable marker encodes for antibiotic resistance.

Claim 34 (previously added): The host cell of claim 33, wherein the host cell is resistant to an antibiotic selected from the group consisting of ampicillin, tetracycline, erythromycin, trimethoprim, and chloramphenicol.

Claim 35 (new): The host cell of claim 1, wherein said recombinant DNA encodes for a polypeptide or protein selected from the group consisting of heparinase I, heparinase II, heparinase III, and selectable markers.